Impulsouth – Global Cooperation for Climate Action:
engagement with climate negotiations and commitments 2020-2023

METHODOLOGICAL GUIDELINE

for the National Research Teams of the Impulsouth Project regarding assessment of capacity and knowledge needs and gaps on the issue of *"assessing impacts, vulnerabilities and risks of climate change - with an emphasis on gender".*

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GLOBAL COOPERATION
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1. Introductory considerations

1.a. Objectives of the project & the research

This Methodological Guideline seeks to provide clarity and support to the National Research Teams (NRTs) when preparing and implementing their action-research plans for the assessment of knowledge and capacity needs and gaps, on the issue of *"assessing impacts, vulnerabilities and risks of climate change- with an emphasis on gender"* in each Impulsouth country.[1]

The national research processes are one of the main components of the Impulsouth project, in order to increase the capacity of the selected countries of the Global South and to strengthen their involvement in the cycle of progression of the Paris Agreement, towards the Global Stocktake. Particular emphasis is placed on the new agents of action (young people, mostly women), and how their contribution can be catalytic for national efforts towards the collective assessment under the 2023 Global Stocktake.

This Guideline proposes to accompany the process of carrying out research projects from the identification of problems, through the elaboration of the research-action plan and its implementation. All the stages nurture a co-constructive development oriented to the capacity assessment, as well as the provision of recommendations with the active involvement of the relevant knowledge community.[2] Thus, research for action is performed, building practical knowledge with and for the communities.

The outcomes of the research can contribute to a research agenda for the country and will also become an input to other components of the Impulsouth project.

1.b. Action-research: guiding principles & crosscutting considerations

Action-research manages to provide orientation to inquiry by creating and/or strengthening knowledge communities, where curiosity is reconceptualized in terms of practical use and social problem solutions (Reason & Bradbury-Huang, 2015). Therefore, action-research pursues social change and avoids extractive perspectives of traditional research that transform communities into research objects.

Another characteristic of an action-research project is that communities of inquiry and action engage together as co-researchers in a co-constructive process. This allows for more synergistic cycles of action and reflection rather than dissociated processes. By linking reflection and action, this sort of research connects theory and practice avoiding a dichotomous approach. "To learn from

[1] *Dominican Republic, Guatemala, Madagascar, Niger, Uganda and Zambia.*
[2] *The concept of knowledge community or community of practice, is captured as a collective of individuals that maintain an ongoing relationship, whether material and/or virtual and/or contextual, that involves the convergence of knowledge and/or of a knowledge field (modified from Earl, M 2001).*

practices, research needs to develop social relationships; internally within the research community as well as in relation to other actors" (Gustavsen, 2003:162).

By developing theories outside of practice, there is a risk of falling into a purely contemplative dynamic that does not question the sources and logics behind the phenomena. At the same time, action without theoretical knowledge loses the power of reflection and social transformation.

5 dimensions of Action research (Reason & Bradbury-Huang, 2015:3-4)

• It is **a set of practices** that responds to people's desire to act creatively in the face of practical and often pressing issues in their lives in organizations and communities;
• It calls for **engagement with people in collaborative relationships**, opening new 'communicative spaces' in which dialogue and development can flourish;
• It draws on **many ways of knowing**, both in the evidence that is generated in inquiry and its expression in diverse forms of presentation as we share learning with wider audiences;
• It is **values oriented**, seeking to address issues of significance concerning the flourishing of human persons, their communities, and the wider ecology in which we participate;
• It is a **living, emergent process** that cannot be predetermined but changes and develops as those engaged deepen their understanding of the issues to be addressed and develop their capacity as co-inquirers both individually and collectively.

Action research is increasingly embraced by different actors related to adaptation research as well as practitioners. Considering this approach, the research process will allow NRTs to be integrated into a global discussion that seeks to develop new modes of research to inform effective adaptation, reducing vulnerability and risks, and creating communities of knowledge and practice. The Adaptation Research Alliance (ARA) is a co-developing experience between multiple stakeholders to be launched in Glasgow as part of the United Kingdom COP26 Presidency Adaptation & Resilience Campaign that champions action-research paradigm shift.[3]

Given that action-research seeks to produce new ways of creating knowledge for applied uses and to solve social problems, crosscutting considerations should be taken into account at all stages of the research. This includes, inter alia, gender and youth.

Youth mainstreaming requires involving young people from the early stages of the research through their organizations and networks. Ensuring participation often requires the development of training or, at least, a process of sharing materials and content for active involvement. Likewise, it comprises recognizing the challenges of intergenerational relationships, children and youth's rights, and providing for an inclusive and open approach regarding how to build capacities with young people from their own experiences and views.

[3]To know more about ARA please visit https://southsouthnorth.org/portfolio_page/adaptation-research-alliance/

Youth participation is a key element of the Action for Climate Empowerment (ACE) agenda. Some examples of how research can support the mainstreaming of ACE are: favoring a multi-stakeholder and participatory process, assessing the needs and capacities for the development of an ACE strategy; seek the intersection between education-research-science-policy; disseminate the information and the research outcomes to the widest possible audience and exchange experiences through international cooperation between the teams of the six countries involved and with all the actors of Impulsouth Project.[4]

NRTs should build the rationale and focus of the assessment of vulnerabilities and risks on gender in light of the specific conditions in each country, which include the socio-economic, socio-cultural, legal, political and psychological dimensions.

Hereby a list of key issues for consideration on mainstreaming gender in both the knowledge and capacity gaps and needs assessments and the vulnerability and risk assessment:

Key issues on gender when assessing needs and gaps in the vulnerability and risks assessment

- Recognition of gender differences and roles in adaptation needs, opportunities and capacities
- Equitable participation and influence by women and men in the assessment of needs and gaps
- Equitable access to data, resources and other benefits
- Identification of barriers related to gender inequality

Some gender resources to consider

Conducting Gender Analysis to Inform National Adaptation Plan (NAP) Processes: Reflections from six African countries
https://napglobalnetwork.org/wp-content/uploads/2019/04/napgn-en-2019-conducting-gender-analysis-to-inform-nap-processes.pdf

Toolkit for a Gender-Responsive Process to Formulate and Implement National Adaptation Plans (NAPs). Supplement to the UNFCCC Technical Guidelines for the NAP Process.
https://napglobalnetwork.org/resource/toolkit-for-gender-responsive-national-adaptation-plans/

Pour un Processus de Plan National d´Adaptation (PNA) qui Réponde aux Questions de Genre à Madagascar
https://napglobalnetwork.org/resource/pour-un-processus-de-plan-national-dadaptation-pna-qui-reponde-aux-questions-de-genre-a-madagascar/

Guidelines to mainstreaming gender in climate change adaptation and mitigation programmes and plans in Albania
https://info.undp.org/docs/pdc/Documents/ALB/Guidelines%20to%20mainstreaming%20gender%20in%20climate%20change%20adaptation%20and%20mitigation%20programmes%20and%20plans%20in%20Albania.pdf

[4]For more information on ACE mainstreaming and National ACE Strategies check UNFCCC ACE Guidelines https://unfccc.int/sites/default/files/action_for_climate_empowerment_guidelines.pdf

1.c. Background on the Paris Agreement

The Paris Agreement is the main instrument for the implementation of the United Nations Framework Convention on Climate Change (UNFCCC). It was adopted at the 21st Conference of the Parties in Paris in 2015 and required an intense process of negotiations between the Parties to reach a legally binding result. The purpose of the Agreement, in its article 2, introduces the basis for the national and collective ambition and Article 7 established the Global Goal on Adaptation.

Article 2 of the Paris Agreement

a. Holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change;

b. Increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does not threaten food production; and

c. Making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development.

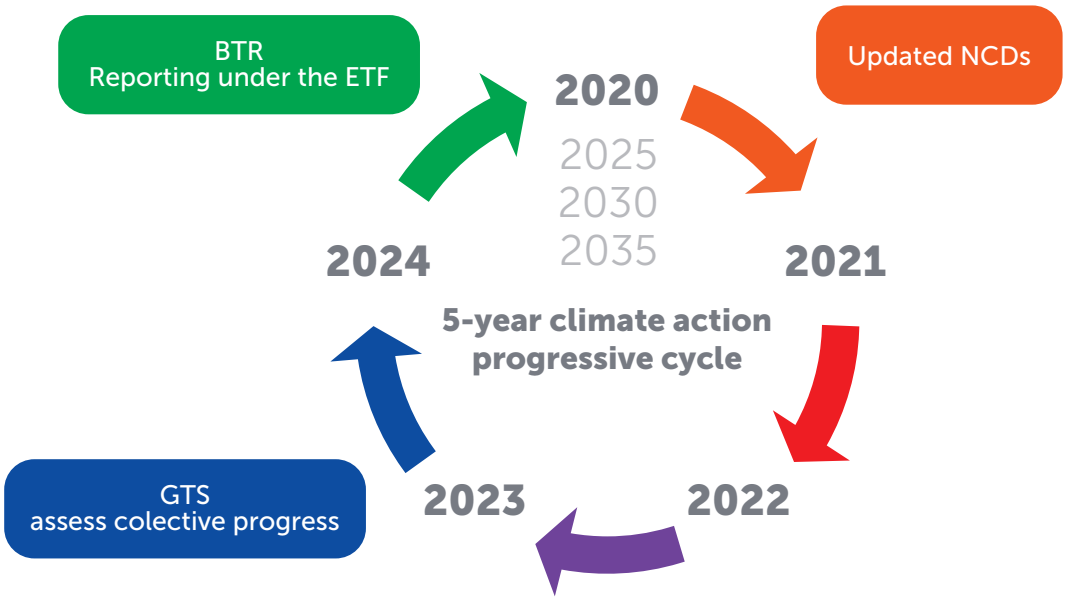
Reflect equity and common but differentiated responsibilities and respective capabilities, in light of different national circumstances, in the context of sustainable development and efforts to eradicate poverty.

Global Goal on Adaptation

Parties hereby establish the global goal on adaptation of enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change, with a view to contributing to sustainable development and ensuring an adequate adaptation response in the context of the temperature goal referred to in Article 2.

The Paris Agreement also established the National Determined Contribution (NDC) as a vehicle for climate action at national level informing the global level, including mitigation, adaptation, finance, technology, capacity building, transparency of action and support, loss and damage, market and non-market mechanisms, among other critical elements.

The NDC five-year progressive submission cycle seeks to guarantee the principles of ambition and progression of national efforts, avoiding backsliding. At the same time, the Global Stocktake plays a substantive role in assessing collectively long-term goals also every five years. These collective goals encompass the temperature goal (art. 2.a); the Global Goal on Adaptation (article 7.1); the long-term vision of technology (art. 10.1) and the long-term financial goal whose floor is the annual provision of 100 billion US dollars (Decision 1/CP.21).



Graphic representation of the Paris Agreement Ambition Cycle
(Own elaboration based on Because the Ocean, 2021)

Regarding the 2023 Global Stocktake, the Chairs of the Subsidiary Bodies of the UNFCCC have released an updated non-paper in September 2021, including the latest draft of the guiding questions for the GST including those for adaptation, which some are hereby presented:[5]

Guiding questions on adaptation. Non-paper SBs chair towards GST

-What are the observed and projected changes in the global climate system and biosphere?
-What are the global levels of climate risks, observed and potential impacts and vulnerability of human and ecological systems caused by climate change and at what temporal scales?
-What is the state of adaptation efforts, support, experience and priorities, taking into account the best available science, gender perspectives, traditional knowledge, knowledge of indigenous peoples, and local knowledge systems?
-What are the support needs of developing country Parties and to what extent has progress been made towards assessing the support needs of developing country Parties?
-What is the overall progress made in achieving the global goal on adaptation, how do national adaptation efforts contribute to this goal including by contributing to sustainable development and ensuring an adequate adaptation response in the context of the temperature goal?

[5]*The GST guiding questions have been simplified excluding specific references to COP and CMA decisions and articles and paragraphs of the Paris Agreement. The complete questions can be found in page 6 of the following document: https://unfccc.int/sites/default/files/resource/REV_Non-paper_on_Preparing_for_GST1_forSBs_15Sept.pdf*

1.d. Capacity building under the Paris Agreement and capacity and knowledge gaps and needs

The Paris Agreement establishes capacity building (CB) *"for enhancing the abilities of developing countries to take effective climate change action, including adaptation and mitigation actions."* The PA also institutes principles or features of CB: country-driven; based on and responsive to national needs; foster country ownership of developing countries; guided by lessons learned; effective, based on an iterative and participatory process, cross-cutting and gender-responsive.

As stated in their NDCs and different reporting mechanisms to the UNFCCC, developing countries understand that capacity-building needs and gaps play a substantive role in carrying out their mitigation and adaptation policy objectives. In this regard, capacity building must be considered as a means to an end.

To assess capacity and knowledge needs and gaps is an essential step to implement a set of robust capacity building activities that can strengthen the institutions in designing, implementing, monitoring and evaluating climate actions. Such activities can involve incorporating, enhancing and/or adjusting different aspects of climate related institutions such as the quantity and/or quality of its human resources, the technological tools available, the existent regulatory frameworks, the degree of institutional planning, and the availability of data systems, etc. The degree of institutional capacity often can explain the efficacy and efficiency of climate actions, and in this regard capacity building becomes strategic in the context of progressive and more ambitious climate policies and actions.

We can intuitively understand capacity building activities, however the concept of capacity building is under permanent construction, and *"has no accepted or tested body of theory"* (WB, 2005, in ECBI, 2018). Looking at the evolution of international development cooperation since the 1950s, capacity building can be said to have its precursors the concepts of "institutional building", "institutional strengthening", "human resource development", "institutional economics", etc.

There is as yet no consensus on what capacity building/development actually means or entails. [...] But there appears to be a consensus that capacity building must include *"individuals, institutions and systems"* that collectively enable effective and sustainable development (ECBI, 2018).

This concept of a three-layered approach directed towards an objective, will be later discussed in the next section, however it is essential to understand capacity building as a process of transformation from an initial stage where there are knowledge and capacity gaps that impedes the achievement of climate results, to a superior stage where all or at least some critical gaps have been fulfilled and climate results thus can be achieved. In this regard the identification of capacity and knowledge gaps become strategic at an early stage.

The Paris Committee on Capacity Building (PCCB) is the constituted body under the UNFCCC and the PA which aims to address capacity needs and gaps and to further enhance capacity-building efforts. The PCCB has identified different types of capacity needs and gaps, including: institutional, technical and financial for implementing adaptation and mitigation components of their NDCs.

Some specific examples of capacity building issues that have been identified by the PCCB in an initial pilot exercise: *"particular sectoral gaps and needs related to adaptation, mitigation and cross-cutting issues such as standardized data generation, collection and analysis; governance and coordination; development of endogenous capacity; access to climate finance; and gender-responsiveness"* (PCCB, 2021).

PCCB has also indicated that *"that while not all countries have a structure in place to systematically identify capacity-building needs and gaps, many are nonetheless aware, through the production of reports as part of the UNFCCC process, of their capacity-related priorities. Bearing this in mind, the adoption of a more modular approach that would enable countries to select targeted tools rather than commit to the development of a stand-alone national capacity needs assessment framework could prove useful to many developing country officials"* (PCCB, 2021).

Building from this systematic and modular approach recommended by the PCCB, the capacity and knowledge gap can be determined as the difference between the "desired capacity and knowledge" required to effectively deliver climate action and the "existing capacity and knowledge". NRTs should include these concepts in the design of the research-action plan.

2. Action research plan and strategy

2.a. Knowledge and capacity needs and gaps and vulnerabilities: contextualization and key concepts

The focus of the research is to assess the knowledge and capacity needs and gaps in relation to assessing impacts, vulnerabilities and risks of climate change- with an emphasis on gender. In this regard it is necessary first to identify a framework to better understand and conceptually organize the capacity and knowledge needs and gap assessment, and then also to establish a reference framework for the impacts, vulnerability and risk assessment. Both frameworks will be clearly inter-linked throughout the research, nevertheless clarity on concepts will be essential for the work among individuals of the NRTs as well as with stakeholders, since each one of both frameworks capture somewhat complex issues.

Regarding the frameworks for capacity building assessments, as indicated there is currently no adopted common definition, and in this regard the PCCB is working on identification, analysis and recommendations of potential approaches, and there are other previous experiences that can inform the research.[6] This work could be ready by early 2022, it is expected that AVINA and the

[6] *Background note on the capacity building Toolkit by the PCCB: https://unfccc.int/sites/default/files/resource/PCCB_2020_4_toolkit.pdf; Knowledge gaps and climate adaptation policy: a comparative analysis of six Latin American countries (LatinoAdapta Project, Ryan & Burgos, 2019). https://www.tandfonline.com/doi/full/10.1080/14693062.2019.1661819*

Research Coordinators will check for updates of the PCCB work around that date and to ensure this information reaches the NRTs.

Nevertheless, the UNFCCC Secretariat has provided an initial approach that organizes capacity issues across three levels: individual, institutional and systemic, and more importantly, emphasizes the capacity building process in relation to an impact (output/result). In this regard capacity building is a means to achieve transformation, as for the context of this research, such transformation will be related to how to achieve robust impact, vulnerability and risk assessments with a gender approach in the context of the adaptation ambition cycle.[7]

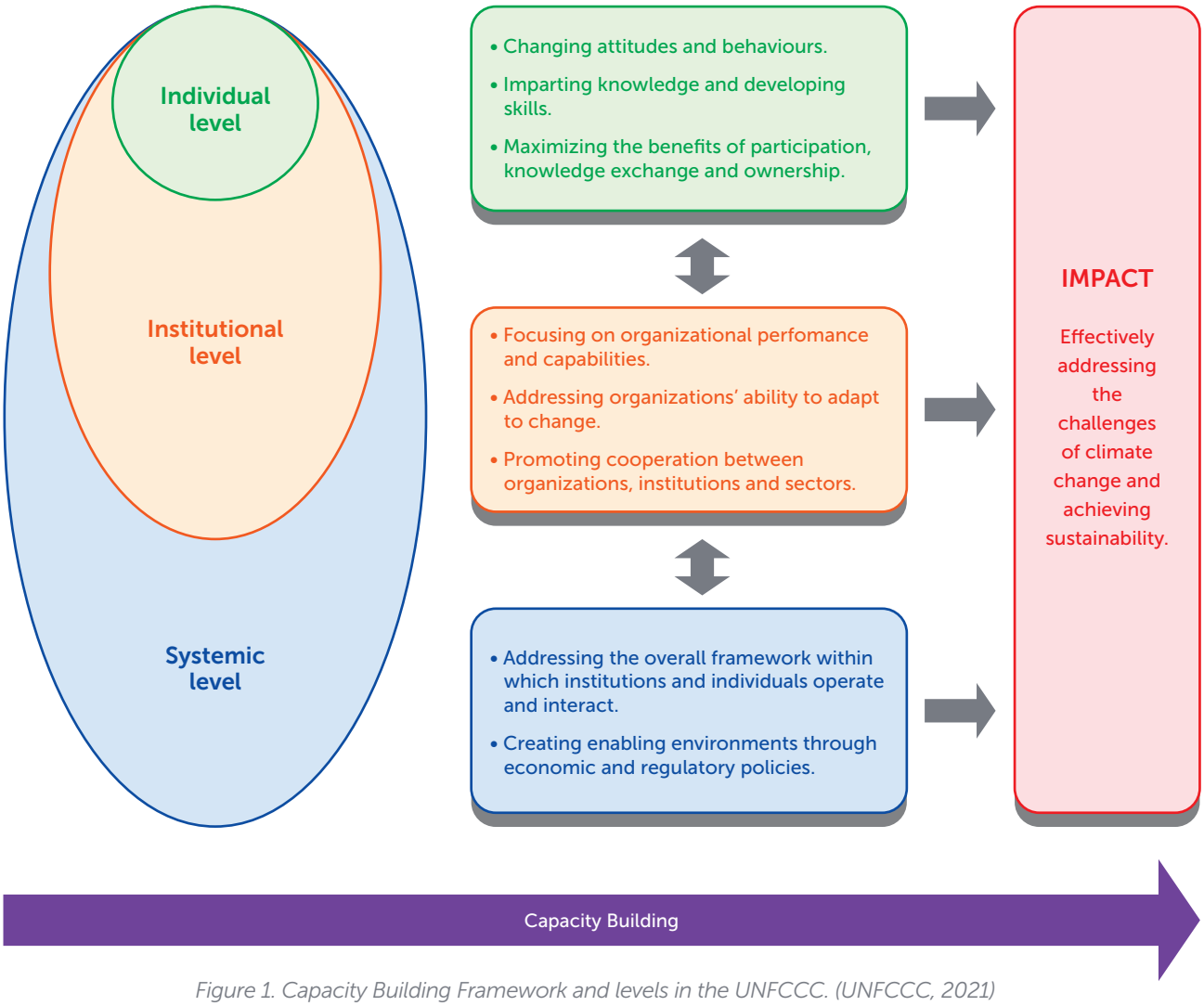


Figure 1. Capacity Building Framework and levels in the UNFCCC. (UNFCCC, 2021)

Key concepts (IPCC, 2018)
https://www.ipcc.ch/site/assets/uploads/sites/2/2019/06/SR15_AnnexI_Glossary.pdf

[7]The adaptation cycle could be summarized as 1. Vulnerability, impacts and risk assessment, 2. Adaptation planning, 3. Implementation, 4. Monitoring and evaluation. The Guidelines for National Adaptation Plans prepared by the Least Developed Countries Expert Group represent a good way to understand the political cycle of adaptation at the national level and its relation to the UNFCCC process (UNFCCC, 2012)

Adaptive capacity: The ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or to respond to consequences.

Exposure: The presence of people; livelihoods; species or ecosystems; environmental functions, services, and resources; infrastructure; or economic, social, or cultural assets in places and settings that could be adversely affected.

Hazard: The potential occurrence of a natural or human-induced physical event or trend that may cause loss of life, injury, or other health impacts, as well as damage and loss to property, infrastructure, livelihoods, service provision, ecosystems and environmental resources.

Impacts (consequences, outcomes): The consequences of realized risks on natural and human systems, where risks result from the interactions of climate-related hazards (including extreme weather and climate events), exposure, and vulnerability. Impacts generally refer to effects on lives, livelihoods, health and wellbeing, ecosystems and species, economic, social and cultural assets, services (including ecosystem services), and infrastructure. Impacts may be referred to as consequences or outcomes, and can be adverse or beneficial.

(climate change) **Impact assessment:** The practice of identifying and evaluating, in monetary and/or non-monetary terms, the effects of climate change on natural and human systems.

Institutional capacity: Institutional capacity comprises building and strengthening individual organizations and providing technical and management training to support integrated planning and decision-making processes between organizations and people, as well as empowerment, social capital, and an enabling environment, including the culture, values and power relations (Willems and Baumert, 2003).

Integrated assessment: A method of analysis that combines results and models from the physical, biological, economic and social sciences and the interactions among these components in a consistent framework to evaluate the status and the consequences of environmental change and the policy responses to it.

Resilience: The capacity of social, economic and environmental systems to cope with a hazardous event or trend or disturbance, responding or reorganising in ways that maintain their essential function, identity and structure, while also maintaining the capacity for adaptation, learning and transformation.

Risk: The potential for adverse consequences where something of value is at stake and where the occurrence and degree of an outcome is uncertain. In the context of the assessment of climate impacts, the term risk is often used to refer to the potential for adverse consequences of a climate-related hazard, or of adaptation or mitigation responses to such a hazard, on lives, livelihoods, health and well-being, ecosystems and species, economic, social and cultural assets, services (including ecosystem services), and infrastructure. Risk results from the interaction of vulnerability (of the affected system), its exposure over time (to the hazard), as well as the (climate-related) hazard and the likelihood of its occurrence.

Risk assessment: The qualitative and/or quantitative scientific estimation of risks.

Vulnerability: The propensity or predisposition to be adversely affected. Vulnerability encompasses a variety of concepts and elements including sensitivity or susceptibility to harm and lack of capacity to cope and adapt.

Beyond the identification and definition of key concepts provided by the glossary of the latest IPCC report involving adaptation (SR 1.5oC), it is important to recognize that the IPCC back from 2012 report called: "Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation (SREX)", has presented an integrated framework that relates many of the key concepts established above. Later on, the 5th Assessment Report of 2014 the IPCC presented the framework again with minor adjustments. The IPCC is currently working on the Impacts, Vulnerability and Adaptation section of the 6th Assessment Report due to be finalized in February 2022. NRTs must be prepared to check this new report for possible adjustments of definition of key concepts and/or new or adjusted vulnerability assessment frameworks.

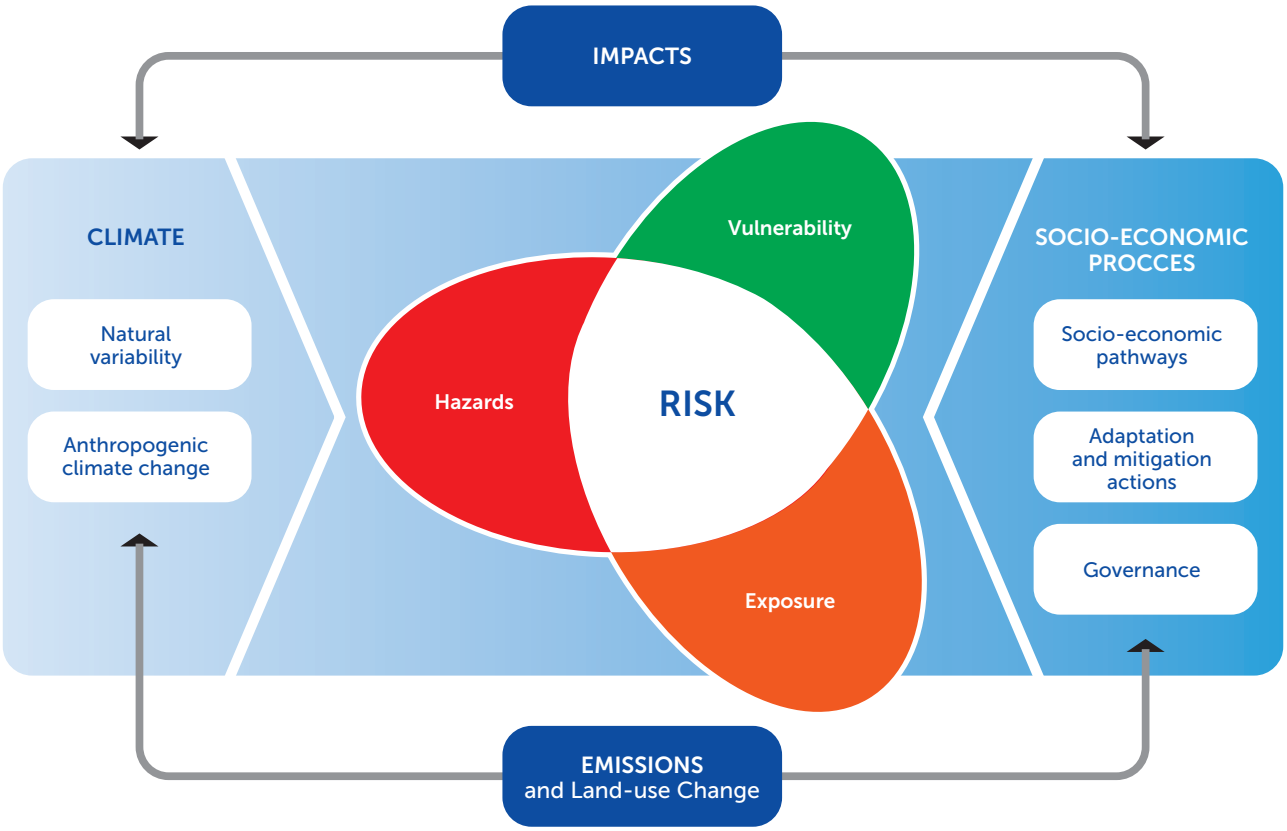


Figure 2: The SREX and IPCC AR5 vulnerability assessment framework (Field et al., 2014; Oppenheimer et al., 2014).

According to the NAPs Guidelines elaborated by the LEG (UNFCCC, 2012), taking stock of the available information on climate change impacts and vulnerabilities and assessing gaps and needs is part of laying the ground and enabling the environment for the NAP process. At the same time, it is one of the key elements of an Adaptation Communication as recognized in the Annex of Decision 9/CMA.1 (UNFCCC). It is also a component of the National Communications (Decision 17/CP.8 UNFCCC) and of the Biennial Transparency Reports (Decision 18/CMA.1 UNFCCC).

The assessment of vulnerabilities, risks and impacts is the beginning of the national adaptation policy cycle, and it is key to assessing collective progress on the GGA at the GST. It will not be

possible to understand and assess progress in adaptation action at the global level, without setting clear priorities derived from the evaluation of vulnerabilities and risks.

There are different methodologies and approaches to carry out this assessment. In all cases, it must be informed by science on current climate variability and projected climate changes according to different temperature scenarios and models.

2.b. Operationalization of the assessment of capacity and knowledge gaps

As indicated, the capacity and knowledge gaps and needs can be considered across three levels: individual, institutional and systemic, with the emphasis that the capacity building is a process in relation to an impact (output/result).

In this regard NRTs could capture knowledge and capacity gaps and needs across the three levels, considering for example: what knowledge gaps regarding climate vulnerability are frequently seen in individuals in the vulnerability assessment knowledge community?; what level of capacity has the national meteorological office for climate analysis?; how local ministries and government agencies interact when preparing a vulnerability assessment in the context of the UNFCCC?

Without prejudice of how deep NRTs can capture capacity and knowledge gaps across levels, it is essential that NRTs can prioritize the work around the institutional level while considering elements of interaction with the systemic context in order to provide for recommendations for strengthening key institutions and how they relate to each other.

Regarding the specific scoping of the research, the knowledge and capacity gaps and needs assessment regarding the vulnerability assessment, can be done at national, sectoral and/or territorial level, in any case the scope of the analysis has to be anchored in the strategic priorities of the adaptation action of the country and key vulnerabilities. As for the PCCB: *"a mountainous South American nation seeking to build institutional capacity to implement ecosystem-based adaptation strategies in its agriculture sector has some needs and gaps that will differ from a Pacific Island nation prioritizing coastal zone adaptation."* (PCCB, 2021).

Work done by the UN Department of Economic and Social Affairs (UN, 2019) regarding the review of capacity development gaps, needs and priorities, have also identified key areas of gap assessments, such as: policy and legislative capacity, institutional capacity, monitoring and reporting capacity, human resources and leadership capacity, financing capacity, and information, knowledge and technological capacity. These areas, which most of them could be considering around the institutional level, may also assist the NRTs in establishing their research plan, hereby a table that can support NRTs in identifying and organizing capacity and knowledge needs and gaps.

Specific scoping

- *specific vulnerability, impact and risk assessment, with a gender approach, of an adaptation priority area at national, sectoral and/or territorial level*

Potential key areas for identification of knowledge and capacity gaps and needs

- *policy and legislation*
- *institutional framework (internal of the institution and interinstitutional)*
- *human resources (quantitative and qualitative) and leadership*
- *financial*
- *technological*
- *information and knowledge*

Recalling from previous sections, the capacity and knowledge gap can be determined as the difference between the "desired capacity and knowledge" required to effectively deliver climate action and the "existing capacity and knowledge".

In order to determine the level of desired capacity and knowledge, NRTs should clearly identify the activities needed to achieve a robust vulnerability assessment (in a specific scope) and then identify the capacities and knowledge desired to perform such activities. Then the NRTs should identify the existing capacities within the institution or institutions related to the activities of the assessment. By comparing the desired capacities and knowledge in regard to the existing capacities and knowledge, conclusions can be achieved on the gaps and needs, and recommendations can be presented to strengthen such capacities.

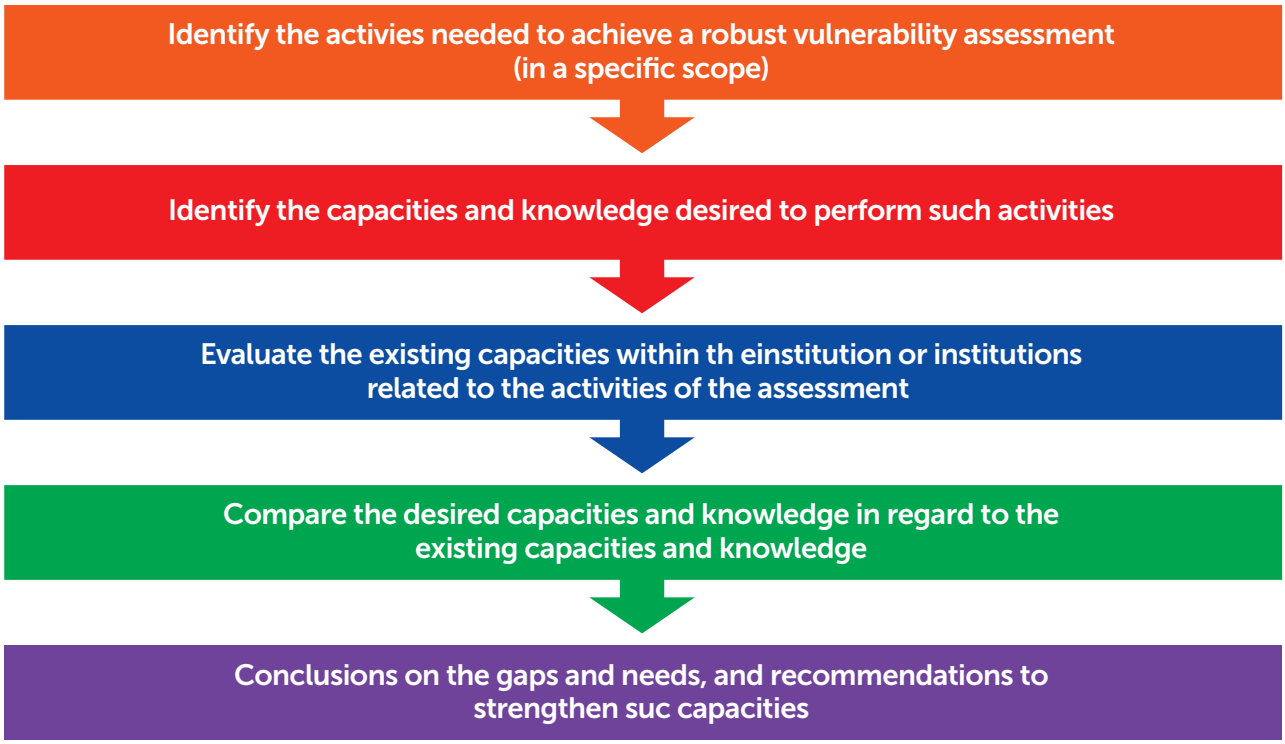


Figure 3. Operationalization of the capacity and knowledge gap and needs assessment

Hereby some examples of previous capacity gaps and need assessments in relation to vulnerability reported by Impulsouth countries:

Capacity Building Issues

(Own elaboration based on official documents of the countries presented to the UNFCCC)

Examples of knowledge and capacity building needs and gaps reported by the six countries to the UNFCCC, as individual (In), institutional (Is) or systemic (Sy)

Dominican Republic: (NDC, 2020)

- *Gaps and needs for technical and institutional capacity have been identified in [...] research, systematic observation, data collection, risk modeling and vulnerability assessments. (Is)(Sy)*
- *Strengthen coordination with local governments. (Sy)*

Guatemala (NAP, 2019)

- *Scarce climate information, including low density coverage of met stations, low historical climate records, in particular rain and winds. (Is)*
- *Gaps on systematization of health-related climate impacts. Relevance of health issues in relation to climate change: vector-borne diseases, malnutrition, and drinking water access. (Is)(Sy)*

Madagascar (NATCOM3, 2017)

- *The establishment of an effective coordination structure at the national level; (Sy)*
- *Insufficient involvement of public media professionals in the framework of environmental communication. Private and public organizations ignore the scale of the problems posed by climate change. Radio and television channels do not have environmental nor climate change specialists. (Is)(Sy)*
- *Technical problems in the use of models and software. (Is)*

Niger (NATCOM3, 2017)

- *At the human level: challenges in the development of education, training and research on climate change, particularly with regard to the vulnerability and adaptation (In)(Is)(Sy).*
- *Lack of tools and methodologies for assessing vulnerability and adaptation (Is)(Sy)*
- *Weak capacity of national experts in the modeling of climate phenomena (In)(Is)*

Uganda (NATCOM 2, 2014)

- *Lack of institutional capacity for carrying out comprehensive vulnerability and adaptation assessments in key ministries. (Is)(Sy)*
- *Lack of data availability and lack professional competencies in V&A. (Is)(Sy)*

Zambia (NDC, 2020)

- *Strengthen capacity among research institutions and coordinating bodies in the use of various climate models to enhance vulnerability assessments. (Is)(Sy)*
- *Technical and financial support for research to enhance adaptive capacity in key sectors such as water, health and agriculture. (Is)*

2.c. Stakeholders' consultation and engagement

Action-research is based on stakeholders' consultation and engagement, in this regard it is essential that in a very early stage of the research process, the NRTs can establish a baseline of key stakeholders on the topic of ***assessing impacts, vulnerabilities and risks of climate change and gender*** at national level. This initial list should remain open-ended for additional identification throughout the research process.

Being a public policy issue, stakeholders can be better identified using institutional references rather than personal, nevertheless it is usual to identify a few stakeholders on a personal level due to their relevance in the topic scope.

The identification can start by considering different groups of stakeholders, such as public institutions (national governmental ministries and agencies, subnational governments, international institutions present in the country); academia (universities, technology centers, academia groups and institutions from abroad that have a research relationship on the topic in the country); non-governmental organizations (local, national and international NGOs involved in vulnerability, environmental and/or gender issues); private sector (local or international companies with technology and/or vulnerable value chains).

There are many ways to organize such a stakeholder list. In any case, the relevance of the analysis has to be clearly anchored on the capacity assessment process. A criterion could be developed by each team by identifying the relevance of each institution in terms of its contribution to the assessment process, and the institutional capacity to contribute to such assessment.[8]

Action-research requires that stakeholders are not only identified, but also engaged. It may include participating in interviews, surveys, completing questionnaires or taking part in workshops and webinars. It is recommended that engagement is not limited to extract user information, but also to involve different actors in the overall analysis by building common hypothesis and/or collectively testing the hypothesis identified. These can be done through virtual workshops and/or focus groups where the capacity constraints are discussed and both the research team and the key stakeholders can reach common understandings of the extent of the problem, and ways to intervene and build capacity.

2.d. Research action plan: components and crosscutting issues

The main components of the action-research plan should be developed in light of the institutional level of the CB Framework under the UNFCCC. The focus on this level is related to -at least- two issues: firstly, several of the 6 countries have identified and recognized capacity constraints in terms of the institutional dimension in their recent submissions to the UNFCCC, including NDC, NAP, NATCOM, ADCOM and BUR. Secondly, the assessment of vulnerabilities, risks and impacts is particularly associated with institutional capacities and performance, as well as inter-institutional cooperation, including different actors.

[8]Other common criteria in public policy research is to determine interest and power/capacity. However, this approach tends to be more relevant for "political arena" assessment purposes but not necessarily to engage in capacity building processes, nevertheless the issue of interest may be useful to be integrated as well if needed.

Components of an Action-Research Plan	
Specific scoping	It is important to specify the scope of the research, seeking to be context-specific. It includes a research and institutional context that incorporates stakeholder mapping. The gender perspective should be also included in light of its national particularities. Within the general scope of vulnerability assessment, NRTs should define a specific scope that could speak to national, sectoral and/or territorial specific vulnerabilities in the context of prioritized vulnerabilities and/or prioritized adaptation actions or planning.
Objectives	The research objectives should be matched with the methodological design (exploratory, descriptive, analytical, explanatory, etc.), including a general objective and up to three specific ones. The objectives should describe concisely what the inquiry is attempting to do, based on the assessment of knowledge and capacity needs and gaps on adaptation planning, specifically on assessing impacts, vulnerabilities and risks of climate change, with an emphasis on gender.
Literature review	It should cover all the stages of the project. Thus, it comes before and after designing the objectives. The quality of the sources is a substantive issue and official and secondary sources of recognized origin should be prioritized, including peer-review articles published in indexed journals. Official sources include the submissions of the country to the UNFCCC.
Theoretical and conceptual frameworks	It should be based on the CB UNFCCC framework, with special emphasis on the institutional level, as well as on the key concepts and the IPCC framework for vulnerability, including crosscutting issues such as gender and youth. At the same time, NRTs should interpret these frameworks through their national realities.
Hypothesis	The hypothesis is based on a solid diagnosis of national capacity gaps and needs in relation to desired outcomes.
Methodological design	The plan should present the research methodology, comprising how the national team is going to conduct the work. This involves data collection and analysis techniques and methods included in this guideline.

It is highly recommended that the NRTs visit the Capacity-building Portal. The Portal encompasses an overview of submissions from Party and non-Party stakeholders, including capacity building activities in developing countries. It is possible to classify by activity including vulnerability and adaptation assessment, as well as select the region and the respective country.

At the same time, there are other tools that could be useful as recognized by the PCCB, when assessing capacities and needs at the institutional level, such as the Global Climate Change Institutional Capacity Assessment, and the Climate Change Adaptation Toolkit.

Given that the research projects seek to strengthen national efforts in adaptation action and towards the first GST, it is necessary to take into account some key aspects that have emerged regarding the possible formats for reporting on the monitoring of the implementation of the capacity building framework in accordance with decision 2/CP.7 UNFCCC. With special emphasis on the priority area of assessment of impacts, vulnerability and adaptation, at the institutional level, methodological approaches arise: research and systematic observation; information and networking including establishment of databases; access to data, information and tools for V&A and submission of national reports (FCCC/SBI/2007/5). The associated outcomes of the methodological approaches include: capacity to mobilize information and knowledge to support assessments and implementation of adaptation actions; capacity to engage and build consensus among all stakeholders in assessments (e.g. national communications and NAPs); capacity to identify and address barriers; capacity to maintain data, information and knowledge between assessments and reporting periods and capacity to produce national reports (FCCC/SBI/2007/5).

Some steps to consider in the process to formulate the action-research plan and its implementation	
1. Adaptation related documents UNFCCC	Revise the documents submitted by the country to the UNFCCC (NAPA, NAP, NATCOM, ADCOM, NDC, BUR) and consider thoroughly the knowledge gaps and needs identified, making specific focus on the assessment of impacts, vulnerabilities and adaptation including gender perspective.
2. Databases	Evaluate the sources and whether or not the country has an information system, databases, historical information, where the information and knowledge are located and whether they are available.
3. Background including stakeholders mapping	Develop an initial stakeholder's mapping (flexible) and prioritization. Consider the research context making specific emphasis on institutional capacities. When mapping, pay special attention to the organizations and stakeholders working with gender issues. Consider gender and women's experiences and build participatory approaches.

4. First draft of the research plan	Formulate the first version of the research objectives building from the overall research objectives in a context-based approach. Build the theoretical and methodological approach including the hypothesis to test. Cross-cutting considerations and gender approach should guide the plan. Maintain reflexivity with respect to gender relations and its possible linkages with the knowledge gaps and needs.
5. Stakeholders' engagement	Seek if possible, for an early engagement of stakeholders, including the National Focal Points of your country to the UNFCCC, for testing the objectives, the approach and the hypothesis. Special attention should be paid to the participation of young people and women.
6. Adjustments to the project	After the engagement with stakeholders, a new literature review, adjustments to the project should be conducted by NRTs. The research plan will be sent to the research coordinators for their comments, revision and final approval.
7. Implementation	Once the plan is approved, research will be implemented under national leadership. Progress and challenges will be shared with research coordinators and other countries NRTs. As part of the research, a national science policy dialogue will be held in each country either to collect inputs or validate findings.
8. National Assessments	A first version of the assessments of capacity needs and gaps will be presented in the format of a report to research coordinators and Impulsouth partners. Feedback will be provided through a written document, as well as online session and a final version of the report will be presented within a month.
9. Publication and dissemination	The final version of the national assessments will be revised by research coordinator and Impulsouth partners. It will be published on a digital format and launched through an online event. A scientific article will be prepared by the research coordinators about the process and results. National partners may collaborate in the authorship. Furthermore, Impulsouth encourages and supports scientific articles been develop by NRTs about national results.
10. Update of the research	An update of the research will be undertaken between February and august 2023.

At the same time, strategic questions may be considered when linking the object of study with the theoretical and methodological framework: Is the theoretical framework well anchored in the adaptation planning cycle and the impact and vulnerability assessment context? Does the theoretical framework include the CB approach under the UNFCCC and the Paris Agreement? Can the research methods robustly capture the main issues arising in the research hypothesis on capacity and knowledge gaps and needs for impact and vulnerability assessment?

It is recommended that the plan conscientiously consider cross-cutting aspects and the gender perspective. Some questions that can help national teams to evaluate whether the project is inclusive and sensitive.

Gender and youth sensitive research projects	
Objectives formulation	• Does the research objectives consider context-specific and topic-specific gender inequalities? • Does the objectives include knowledge and capacity gaps, as well as the specific needs of women and youth? • Does the formulation of the objectives involve a mapping of stakeholders that are sensitive to gender and youth?
Selection of theoretical framework	• Is the conceptual framework gender responsive / sensitive / specific? • Does the conceptual and theoretical framework illustrate the transformative pathways of youth, women, and different gender groups for achieving innovative climate action and empowerment?
Building methodological alternative	• Does the data collection and data analysis tools and methods consider disaggregated data on gender and youth? • Does the project include gender and youth specific indicators? • Do the methods and tools seek to promote public participation and empowerment in NDC implementation?
Preparing dissemination products	• Are women and youth direct beneficiaries of the knowledge developed and active part of the recommendations? • How the action-research outcomes assist the country to strengthen gender and youth perspective in their NDCs towards the 2023 GST?

3. Methodology and tools

Research methodology comprises a way to solve problems related to capacity and knowledge gaps and needs identified in the diagnosis and built as an objective of the action-research process. Even when the methodology implies a process of conducting the research, action-research requires more flexible and co-constructive formats. At the same time, it encompasses certain methods such as planned procedures, strategies and techniques that allow the national teams to collect data for its analysis.

There are different methods depending on qualitative or quantitative inquiries. Qualitative research is useful for explanatory, descriptive and analytical investigations, seeking for understanding and interpreting events, behaviors, describing situations and contexts. It is helpful when procuring to comprehend social and cultural phenomena and social relations and reactions. Quantitative research allows to gather data that can be categorized, added and measured. Intensity, frequency and quantity are some of the parameters measured.

Hybrid or mixed methods may be useful by integrating both quantitative and qualitative approaches, including the triangulation of methods and the hidden contextualization combined with statistical analysis.

3.a. Data collection approaches & tools

Data collection tools should be consistent with the methodology approach. Qualitative techniques and tools include, inter alia, interviews, focus groups, document analysis, life stories and observations. While quantitative techniques and tools may entangle, inter alia, document screening, observation, experiments and surveys or questionnaires.

A **survey** is a method by which a questionnaire is applied to a sample or to a number of people or cases and seeks to collect a spectrum of information that can be comparable and aggregated. It could serve to measure opinions, understandings and also behaviors in a numerical form. Surveys could be national, online, intercept and cross-sectional between many other types. *Ex. 37% of the participants considered that the main knowledge gap with respect to the vulnerability and risks assessment in Uganda is the absence of reliable data at the subnational level. 45% of the participants affirmed one of the capacity gaps in terms of iteration of vulnerability and risk assessment in the Dominican Republic is the lack of disaggregated data on youth and gender.*[9]

An **interview** can be structured, semi-structured or unstructured in-depth sessions with a researcher or a team. However, a large number of interviewers will not help a deep conversation

[9] *During the workshop conducted by the research coordinators with the participation of the Impulsouth Executive Committee and key stakeholders, it emerged that surveys have the difficulty that although the information they provide is extremely useful in the process, too much time and resources is often invested to have responses and finally unbalanced outcomes can be achieved, mostly considering COVID 19 context. In this sense, it was suggested to hold a workshop where some specific questions are asked to the attendees through applications such as Mentimeter and others, that can work as a survey proxy.*

where the interviewee can share their experiences and knowledge from a more open perspective and for building trust. Thus, it is suggested to develop forms for semi-structured interviews that have a set of common questions among different stakeholders, allowing a clear linkage between results, while providing enough space for questions emerging from the conversation and different experiences.

Both in the case of surveys and interviews, the researchers are constructing primary data, while using **desk research** implies using existing secondary information, such as previous research in the topic, existing or finalized cooperation and/or research projects, official reports to the UNFCCC, or others. In some cases, desk research is the only data-collection method but it could be also supplemented with other methods such as the ones already mentioned for a bigger picture.

Before conducting interviews or managing surveys, a desk review can be useful in order to acknowledge what other studies, researchers and other actors have developed with respect to the same area of work. The desk review should incorporate what stakeholders and communities have built around the topic, since later in an interview or a survey we can waste efforts asking obvious questions that can even be considered disrespectful in terms of not knowing the work experience of the respective actor on the subject.

Focus group discussion is frequently used as a qualitative approach to gain an in-depth understanding of social issues. The method aims to obtain data from a purposely selected group of individuals rather than from a statistically representative sample of a broader population (Nyumba et. al, 2018: 2020). During a focus group a trained moderator or facilitator/s conducts a collective interview with a number of participants that may vary. The participants may have the same or different backgrounds or characteristics, depending on the objectives of the exercise. it seeks to generate a dynamic of interaction between the participants. In this way, information is obtained that would not emerge in an individual interview process (Lavrakas, 2008).

National research teams may be interested in visiting SAGE Research Methods Map in **https://methods.sagepub.com/methods-map**

For the implementation of this research, we propose a combination of tools. In the first place, a **desk review** could be carried out trying to cover as much literature as possible about the area of study in general and elaborated by regional and national researchers specifically. It is suggested to identify fields of action going from the general to the particular in scope, including: adaptation policy cycle and the global process in the GST; vulnerability and risk assessment; evaluation of capacities and knowledge gaps and the specific object of study of the research through the specific objectives developed.

Given that in the early stages of the project the mapping of actors and their potential involvement with the entire process are foreseen, a **workshop**[10] could be held with the main stakeholders

[10] *This workshop can be done virtually, due to COVID restrictions and resource constrains. The workshop could have plenary settings (20-35 people) as well as small rooms (5-7 people) for in depth discussion, videoconference tools such as Zoom can easily allow for such differentiated settings. This workshop is different from the science-policy dialogue, that could be done at a later stage including the main findings of the research.*

identified where the objectives, the approach and the hypothesis are submitted for discussion. It is suggested to send the project together with a brief concept note presenting the Impulsouth Project at least three days prior to the event to all participants in order to obtain a greater involvement with the proposal during the workshop.

The workshop could last between 1.30 to 2 hours maximum and it is recommended to use a presentation with the key ideas and graphics, as well as making use of collaborative digital whiteboard applications such as Jamboard, Padlet and others for discussing specific questions with a moderator. Likewise, and given the limited time that stakeholders may have, it is important to make a wise use of that time. Thus, the **survey** should be facilitated in a friendly format. Instead of sending the questionnaire at another time, Mentimeter or another similar app could be used to ask specific questions throughout the workshop. Either way, you can leave some part of the survey open for those who decide to answer it later or even provide it to those who could not attend the event.

After the workshop, it is expected that the national teams will be able to adjust their project according to the feedback received. Likewise, during the research execution process, it is recommended to select at least 1 to 2 interviewees per key group of stakeholders using a semi-structured format. The **interviews** should be conducted for approximately 1 hour and it is essential that the interviewee(s) fully know the subject, the project and the interviewee's expertise. The form may combine two approaches, on the one hand, a set of questions (2 to 3 approximately) that are given to all interviewees in order to achieve some comparability in the data. Then, another group of questions in similar numbers that are specific to the specialty and role of the actor. If the triangulation strategy is chosen, the interview is the right time to ask the questions that make it possible to confirm -or not- the information collected through other tools such as, for example, the desk review.

Prior to the interview, an invitation to the interviewee should be sent by email where a brief concept note of the project can be incorporated, as well as a consent form for the interviewee to complete and sign (considerations in Annex 1).

Although the interviews allow an expanding of the knowledge and individual experiences of the participants that few tools provide, **group interviews** favor an exchange between actors and a focused discussion that allows understanding perceptions in a relaxed environment. To do this, it is essential to avoid overly directive techniques and seek technical moderation that favors social interaction, trust building and collective exploration. The focus group can be a good opportunity to reflect on the perceptions of the participants about the impact of knowledge gaps and needs and to test possible recommendations. Building adaptive capacity and reducing vulnerability require a close look at social perceptions of hazards, and the focus group offers an opportunity to do so.

Recommendations to consider when preparing the focus group	
1. Objective	How does the focus group contribute to the action-research objective? How is it aligned with the structure of the project (objectives-theoretical framework-hypothesis-methodology?
2. Group	Groups between 5 and 8 people. Women and youth must be key actors. How is the group formed? Is it preferable that the participants know each other or not? Is it better that the participants respond to different types of stakeholders?
3. Moderator	What are the best strategies to encourage an open dialogue and build trust? How to focus the questions but avoid being dogmatic or directing the answers?
4. Dialogue design	How to construct the script in a way that allows a clear organization but at the same time is flexible to the reactions of the group? How much information to disclose by informing without conditioning? How is the differentiated impact of the questions on women and men?

3.b. Data analysis for capacity assessment

Action-research indicates an iterative approach seeking for constant innovation and reflection with the community. Thus, it is a learning process that requires revisiting traditional systematic inquiry and building bridges with practice. Data analysis may be considered as a cycle with different stops during the process but mostly related to the data collection tools and with the main structure of the inquiry as referred to in data collection before. Therefore, data analysis is to look and explore collected data, to understand different views and process information obtained.

In this research, the data analysis is linked to the different moments of a capacity assessment, including: the "existing capacity and knowledge", the "desired capacity and knowledge" required to effectively deliver climate action and the "capacity and knowledge gaps" determined as the difference between the previous issues.

In order to evaluate the level of existing capacities and knowledge when carrying out the process of assessing vulnerabilities and adaptation risks NRTs may consider: *How is the current state of the*

information on variability and climate change for iterative vulnerability and risk assessment processes? How is the status of the databases? Is historical and up-to-date information available? How was the process of participation in the vulnerability and risk assessment? How does the relationship science-politics develop when building information? Does the country have endogenous capacities to identify vulnerabilities and risks in a participatory way?

All the data collection tools already referred to and the recommended process contribute to the evaluation of capacities. Once the existing capacity and knowledge is assessed, it is key to identify the level of desirable capacity and knowledge through active exchange with stakeholders and assessment of feasibility. The workshop, the interviews and the focus group will provide sensitive information for this purpose, as long as they are designed with this point of view and objective. *Is it possible to improve the science-policy interface and the relations between state agencies and the scientific and knowledge production sector in order to build long-term databases with the best available science? Is it desirable for the country to improve its monitoring and reporting system on the main vulnerabilities and risks, including layers of information differentiated by gender? What are the capacities and knowledge for assessing vulnerability and risks that the community requests to strengthen to better inform its adaptation policy cycle and to reduce vulnerability and increase resilience?*

Finally, the data analysis process involves the identification of capacity and knowledge gaps and needs by comparing the desired capacity for climate action with the existing capacity. These gaps and needs are the outcome of the analysis of the national group with the stakeholders and although they may appear in the desk review, the other participatory instances (workshop, survey, interview and focus group) should reaffirm them, question them and / or identify new gaps and needs. For this reason, the object of study must be very as focused as possible so that the recommendations of intervention are affordable and aligned with the implementation of the NDC towards the GST and other adaptation related documents. The identification of capacity and knowledge gaps is the basis for building recommendations.

4. Conclusions and recommendations for capacity building

As a result of the implementation of the action-research plan, NRTs may need to make adjustments to their assumptions. The national assessment and the list of specific knowledge and capacity needs and gaps should reflect the process and the lessons learnt providing for exchange between the NRTs and the partners of Impulsouth. Moreover, the report and the list should reflect the co-development process followed with the stakeholders.

Furthermore, the report may provide some recommendations related to the desired capacities and knowledge at the institutional level without losing sight of the systemic level that contributes to understanding the contribution to the global process in the GST and toward compliance with the GGA.

Ideally, it seeks to develop recommendations that could potentially feed official processes and/or documents. The NRTs should ask themselves if the recommendations are capable of being taken up by countries, when designing and/or implementing climate projects, and/or climate policies or plans or even when updating their NDCs, as well as reporting the progress of the current contribution through their respective reports that feed the Paris Agreement ETF.

Such recommendations will make up the **national assessment** that each NRT will submit as a final report of its research work. It is suggested that teams use a common national assessment format.

Divisions	Sections
Initial sections	Title of the Report Composition of the NRT (institution and members) Table of Contents Abstract
Body of the report	Introduction (including specific scope, objectives, theoretical framework and hypothesis) Literature Review Methodology Results Discussion Conclusion and recommendations
Supplementary sections	References Annexes

5. Dissemination and implementation of research results

5.a. Scientific paper drafting and scientific fora

During the action-research process NRTs, if interested, could engage in a drafting process for a scientific paper to be published by a specialized scientific peer-reviewed journal.

The scientific paper is a short, concise and robust document designed to present the methods and evidence gathered during the research process, with the objective of the research being peer-reviewed, as an essential stage of the scientific process to consolidate and validate the research process. It is also relevant to disseminate its methods and results, considering its

replicability in other cases and contexts, as well as the eventual comparison and the accumulation of knowledge.

The latest recommendations on scientific writing supported by national or international public agencies include a public disclosure of the research data collected during the research, covering metadata and editable databases (for example: .csv documents). This practice favors usefulness for other researchers, as well as more traceability.[11]

The scientific paper length depends on the magazine. It is usually a 12-25 page document including the following sections:

a. Abstract: 200-300 word paragraph establishing the main problem, the methodological approach and a hint of the discussion and results.

b. Introduction: The definition and the context of the problem to be analyzed -it may include research questions-, and a short description of the research approach and stages performed. It may also include some theoretical references and the context of the scientific state of the art related to the problem analyzed, and how the research process advances the knowledge of the issue.

c. Methodology / Materials and methods: This section speaks to the technical part of the research process, is has to clearly present the methods and tools used for the research whether quantitative and/or qualitative, including a reflection on why this/these method/s and tools are relevant for the issue in question, its theoretical references and the context of the research. It also expresses how the methods were applied during the research and it may also include the problems that arose in the implementation of the methods and tools during the research, and how these problems were dealt with and why the research remains robust beyond those problems. It may also include how individual data was aggregated, and/or analyzed and/or compared in the overall data set);

d. Results: It includes a detailed description of the research results, it is helpful that this section includes tables and figures to better represent the results achieved, nevertheless the text presenting the result and explaining and referencing the tables and figures is required to be clearly developed. Regarding tables and figures it is essential that those are clearly referenced including whether all data included comes from the research and/or has mixed information coming from previous research duly referenced. In quantitative figures and tables best practices require to clearly include margins of errors, and deviations clearly represented.

e. Discussion: This section includes a robust explanation of the meaning of the results in the context of the research problem, how these results explain the problem, what questions remain unsolved and/or new questions have risen during the research process, for problems involving public policies it may also include recommendations for decision makers.

[11] it may exclude information that is preserved for personal reasons but that data groups should also be disclosed and the reason for not the not to be published and where and how this data is preserved and until what time

f. Acknowledgements: It is an optional section that may include a reference to honorary support received, funding received, potential conflicts of interests of the research team and/or individuals, code of conduct/ethics applied, dedications, and any other information that it is required to be disclosed in order to preserve the integrity of the research.

g. References: A list of all documents and scientific papers cited in the previous sections. For citation see Annex 3.

The scientific paper can be revised during different stages of the peer-review and publication process, this is a normal process but integrity must be preserved and it is also recommendable for those revisions to be referenced in the final paper approved.

It is also relevant for the research team to be familiarized with specific journals were the scientific paper can be presented, in order not only to have the latest scientific information on the issue but also to adjust the draft to the usual formats, language and approaches of each journal, while recognizing that there might only be quite minor differences in the set of journals selected.

The selection of the journals may also require a self-evaluation of the scientific relevance, impact and quality of the research achieved in order to choose the journal (for example: https://www.scimagojr.com/journalrank.php).

Some climate change-related journals (non exhaustive)

Climatic Change; Climate Policy; Nature; Environmental Innovation and Societal transitions; Environmental Research Letters; Environmental Politics; Sustainable Cities and Societies; Global Environmental Politics; Global Environmental Change; Sustainable Development; International Journal of Sustainable Built Environment; Sustainable Environment Research; Sustainability; Sustainable Water Resources Management; International Journal of Innovation and Sustainable Development; International Journal of Sustainable Development Planning; International Journal of Environment and Sustainable Development; Policy Sciences; Current Opinion in Environmental Sustainability; Carbon and Climate Law Review

Beyond the publication in scientific journals, it is quite relevant that research teams may also use scientific fora, to present ongoing or finalized research processes and results. It may include virtual or in- presence congresses, international meetings, symposiums and/or workshops to discuss with colleagues and to be better informed of the state-of-the-art of the research and also on the research demands from international and national stakeholders.

Events to consider

Adaptation Forum, Adaptation Committee UNFCCC

Adaptation Futures

International Conference on Climate Change Adaptation

European Climate Change Adaptation Conference

World Conference on Climate Change and Sustainability

Stockholm +50

Global Forum on Climate Change

Regional Weeks of UNFCCC

In these events presentations can be done using digital tools as slides, recommending no to go beyond 10 minutes and focusing on relevance, results and discussion. As with journals, each event has its oral and written presentation rules that must be taken into account. Another common approach is a "poster presentation" which may use the structure of the scientific paper on a single slide.

5. b. Communication strategies at local level

Beyond the potential scientific dissemination and while implementing the research and after having achieved the first results, NRTs could implement a minimum public communication strategy at local level. The objective includes involving key stakeholders in the action-research approach, and also to disseminate the results in the local community, which is expected to be interested in the topic discussed since climate change is becoming an increasingly substantial issue in the media and communications agenda in developing countries.

Within the communication strategy different tools and events can be implemented, for example research teams can put in place social media profiles (for the specific project and/or using social media profiles of the research team or the institution involved) to present project activities, place questions for discussion, or even short videos of the researchers and/or research activities. As discussed in the research tools section, it is also useful to establish virtual fora to present intermediate research results, also to invite experts in the topic under inquiry and also practitioners involved in the research topic. These fora also strengthen the research project's ability to foster networks in the local community to sustain the action research process beyond the project's funding.

It is also important to draft a one pager document that can explain the research project easily. It is suggested to be developed as the project advances to include intermediate results. This one pager

can then be shared with stakeholders and partners in the community. It can also become a trigger for engagement with the established media at local level, in this regard it is also important to have an updated database of media institutions such as newspapers, radios, tv stations and content producers to send the one pager and their updates.

In order to have a deeper relationship with the media, the research team can directly engage with specialized journalist in newspapers, tv and radio, that often discuss and present issues regarding climate change, sustainable development and environment, probably there are just a few of them locally but they should be quite interested in sharing the action-research story.

5.c. Reporting of capacity building gaps and needs at the UNFCCC level including inputs for the GST

According to the Guidelines for the preparation of National Communications to the UNFCCC (Decision 17/CP.8 UNFCCC), developing countries are encouraged to provide information on capacity building activities at national, subregional and regional levels, including South-South cooperation, involvement of stakeholders, and dissemination and sharing of information on capacity-building activities.

On the other hand, the Guidelines for the preparation of Biennial Update Reports (BUR) (Decision 2/CP.17, UNFCCC) indicate that developing countries should provide updated information on constraints and gaps, and related financial, technical and capacity building needs, as well as capacity-building and technical support received from developed country parties.

At last, with the adoption of the Enhanced Transparency Framework (ETF) under the Paris Agreement, a Biennial Transparency Report (BTR) has been established for an initial presentation for the first BTR no later than December, 2024. There are flexibilities for SIDS and LDCs according to the Paris Agreement.

> *"The enhanced transparency framework represents an important component of the ambition cycle in the global climate regime by building trust and confidence that countries are taking action to meet their national climate targets and actions defined in their NDCs under the Paris Agreement. Furthermore, in addition to scientific research and findings by the IPCC, information reported in BTRs will be considered at a collective level as an important input into the Global Stocktake, leading to stronger climate action" (UNFCCC, 2021)*

Guidelines for the BTR indicate that information on adaptation should be provided, including as appropriate information on current and projected impacts, risks and vulnerabilities. Also the BTR guidelines indicate that developing countries should report on capacity building support needed and received, including activities in tabular formats (para 139-140 of the ETF MPGs Decision 18/CMA.1, UNFCCC).

The adaptation section of the NDC is considered by some countries as an Adaptation Communication. Thus, the further guidance on ADCOM in 9/CMA.1 can be considered. There is no

agreement if it is indeed a report, but rather a communication as its name indicates. In any case, this document can be a way to make visible the gaps and specific needs in terms of adaptation.

The National Adaptation Plan is also another strategic document to include information on capacity gaps and needs in relation to impact and vulnerability assessment, since it is an integral part of the adaptation policy cycle as included in LEG Guidelines for NAP (UNFCCC, 2012). ADCOM could also be submitted as a component or in conjunction with NAP.

In this regard it is strategic that the research teams build a concise narrative of the research process and main results, so that it can be easily integrated in each country´s reporting instruments to the UNFCCC, in case such results are deemed relevant by the institution/s of the National Focal Point of the country to the UNFCCC. In this case, the main approach that can be taken in agreement with National Focal Points of each country to the UNFCCC is to draft a concise paragraph regarding the process and the main results, with a focus to provide input for the GST, as well as to request capacity building support to overcome the identified capacity building needs (the last could also be described as activities in a tabular format).

5.d. South-south cooperation approaches

The Impulsouth project is essentially a triangular cooperation platform that provides financial and technical support in order for developing countries in Latin America and the Caribbean and Africa to develop a capacity building process including climate solution in the context of the ambition cycle of the Paris Agreement. In this regard the capacity gaps and needs, the lessons learned and the recommendations coming from national research teams, not only will support the national process but also present a unique opportunity for interaction and south-south cooperation.

By using the same methodological parameters included in this guideline, the different national research processes can inform an enriched relational dialogue across the different national realities in order to identify common problems that arise in the context of capacity gaps and needs and impacts and vulnerability assessments. Additionally, it may also provide an opportunity for countries to overcome specific issues that may result in good practices and lessons learnt. Moreover, within virtual workshops, new solutions to the common problems identified can be presented, designed and discussed, in order to present integrated proposals for future common capacity building activities.

Some issue that can be discussed in such spaces could be: climate, environmental and socioeconomic data gathering, modeling, compiling and access; quantitative and qualitative assessments; integrated, territorial, and/or sectorial assessments; impact and vulnerability assessment cycles and monitoring and evaluation of adaptation; individual, institutional and systemic capacities needed; etc.

The action-research project and its implementation can also inform other processes conducted by key stakeholders in the country in the position to assist the country in closing the capacity and knowledge gaps and needs. During the engagement with the stakeholders, the NRTs should be aware of these opportunities and incorporate them in the design as well as in the national assessment for the consideration of the focal points.

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Annex 1: Code of ethics on personal data

As part of the research process, all researchers shall apply the following code of ethics:[12]

- All research participants (e.g.: persons who provide information in interviews, surveys, focus groups, etc. and/or persons who provide their views on research-action workshops, including online sessions) shall provide written informed consent of voluntary participation prior to engaging in the detailed specific research activities.
- Information for the consent should include concise and clear information about the purpose, methods and intended uses of the research, as well as the participant institutions and funding agencies, and if there are any expected benefits and/or risks.
- Participants shall give written and signed consent free from coercion or undue pressure. They should be aware of the right to refuse participation whenever and for whatever reason they wish, without fear of penalization or victimization. They should not have to give a reason for refusing to participate. Participants should also be made aware of where and for how long their data will be stored and how the data will be treated (for example, if they are going to be shared with third parties).
- Beyond participation in the research process, all participants shall clarify if their identity shall remain anonymous and confidential at all times, or in specific stages and/or parts of specific research activities (e.g. an specific question during an interview). This approach should ensure there is no way to identify a person from the information provided (ensured, for example, by keeping personal details separate from survey responses, or by participants not sharing their names with researchers). Any confidential personal information (such as names, job titles, employers, etc) should be securely stored, password protected and possibly encrypted
- This consent can be written, or audio/video recorded. Participants who do not give consent shall not be included in the research process. Researchers may consider asking participants for different levels of consent, e.g. whether or not they consent to their responses being featured in resulting reports with names, roles and names of institutions, or with their roles and institutions, just with roles alone or with no identifying information at all. To ensure that research participants are able to give informed consent, the project should be clearly described to them in written form and verbally.
- This information can be provided on a participant information sheet if conducting face-to-face research, or included as an introductory text to a survey. Project details should include the rationale for the project, the voluntary nature of participation, and clear statements regarding the planned use of the data, the length of the research task (e.g. completing a survey), anonymity or confidentiality, and respondents' right to withdraw before, during and after the research process. If the respondents decide to withdraw within the timeframe stated on the consent form, any data or recordings obtained must be destroyed and cannot be used in any resulting publication.
- Before taking part in the research, participants should also be given the opportunity to ask questions about the project, and be provided with the researchers' contact details. A complaints procedure should be in place, and the participant information sheet or introductory text to a survey should list the name and contact details of those responsible for receiving and handling complaints about research conduct within the institution.
- This code of ethics is mandatory; however it can be complemented with additional ethics provisions that are mandatory and/or recommended in each of the NRTs institutions.

[12] *Based on the Warwick University Research Ethics Code of Practice, for more information: https://warwick.ac.uk/services/ris/research_integrity/code_of_practice_and_policies/research_code_of_practice*

Annex 2: Guide on referencing and citation

The use of American Psychological Association (APA) Style in its 7th Edition for references and citations is recommended. For more details, consult the Publication Manual of the APA Style website at https://apastyle.apa.org/.

In-text Citations

- 1 author: (Robinson, 2017)
- 2 Authors: (Solaun & Cerdá, 2019)
- 3+ Authors: (Ampaire et. al., 2017)
- Group or organization Author:

First time complete and with abbreviation (United Nations Framework Convention on Climate Change [UNFCCC], 2021.
Subsequent citations: (UNFCCC, 2021)

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Annex 3: Action-Research Plan Template

It should not exceed 5 pages and can be prepared using the following template:

Country:
NRT institution and members: -... -...
Initial list of stakeholders involved (National government. -National government: -... -Local government: -... -Civil society: -... -Academia: -... -Private sector: -... -International cooperation/organizations: -...
Specific objectives (max three) -...
Hypothesis on knowledge gaps and needs (max 100 words) -...
Theoretical and conceptual framework (max 500 words) -...
Methodological design and tools (max 2 pages) -...
Outputs expected (max 200 words) -...
Calendar (short table) -...
References (additional to 5 pages) -...
**Literature review is not necessarily considered in the template but NRTs may decide to include it before the Theoretical and conceptual framework*

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